BOOK REVIEW

Walter S. Judd, Christopher S. Campbell, Elizabeth A. Kellogg, Peter F. Stevens, and Michael J. Donoghue. 2007. **Plant Systematics: A Phylogenetic Approach (ed. 3).** (ISBN 978-0-87893-407-2, hbk.). Sinauer Associates, Inc., 23 Plumtree Road, Sunderland, Massachusetts 01375, U.S.A. (**Orders:** www.sinauer. com, fax 1-413-549-1118). \$94.95, 620 pp., ca. 325 illustrations, 25 color plates, 8 1/2" × 11".

Chapters:

- 1. The Science of Plant Systematics
- 2. Methods and Principles of Biological Systematics
- 3. Classification and System in Flowering Plants: Historical Background
- 4. Taxonomic Evidence: Structural and Biochemical Characters
- 5. Molecular Systematics
- 6. The Evolution of Plant Diversity
- 7. An Overview of Green Plant Phylogeny
- 8. Lycophytes, Ferns and Their Allies, and Extant Gymnosperms
- 9. Phylogenetic Relationships of Angiosperms

Appendix I. Botanical Nomenclature

Appendix II. Specimen Preparation and Identification

For the third time, we look at plant classification with the authors and scientists Judd, Campbell, Kellogg, Stevens, and Donoghue. This is good news as it means that research on plant taxonomy and systematics as well as our understanding of the plant kingdom and the tools of science are all evolving.

I loved this textbook as it holds everything one needs to know about plants: families, floral formulas, distribution and ecology, genera and species, economic plants and products, references of articles and books, figures, phylogenetic trees and morphological character states, and a large discussion on DNA and problematic phylogenetic positions of groups. In addition, keys are provided along with pictures, tables of diagnostic features of some subfamilies, a nice glossary, and a DVD.

The above facts are the result of both intensive plant collecting and herbarium-based research (the practice of which is explained) and intensive thoughts on what a plant is, what systematics is, how the phylogenetic process works, and how we have historically handled the task of plant classification.

The book gives not only plant groups but also explains why a group is defined and delimited in a specific manner. The authors' approach is a phylogenetic one, which is the most current way of thinking in plant evolution as it considers together classical morphology and anatomy as well as DNA features.

Since the printing of the second edition of this textbook, some new concepts of grouping have evolved. For the non-flowering plants, (1) ferns are now called Moniliphytes instead of Moniliforms; (2) Marattiaceae, formerly within Ophioglossales, now constitutes its own order, Marattiales; (3) Polypodiales is now a subcategory of the "Leptosporangiate Ferns" instead of being the equivalent, meaning that some families of Polypodiales as defined in the second edition are now bumped up to Order-level taxa (e.g., Osmundaceae, formerly within Polypodiales, is now Osmundales). Regarding new classifications within the angiosperms, the "Magnoliid Complex" is identified as a clade in the third edition, meaning that Magnoliales, Laurales, Canellales, and Piperales form a monophyletic group.

I recommend this textbook for any classes that are botany-related, for any research projects that are botany-related, and any naturalist groups that are botany-related. Plants are wonderful: let people know more about them.—Virginie H. Raquet, BRIT Research Associate, 13380 Plan-de-Cuques, France, vraquet@brit.org.